



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,179	08/28/2003	Richard W. Citta	P01,0452 01 (7100CON)	5948
28574	7590	11/18/2004	EXAMINER	
ZENITH ELECTRONICS CORPORATION			KIM, KEVIN	
2000 MILLBROOK DRIVE			ART UNIT	
LINCOLNSHIRE, IL 60069			PAPER NUMBER	
			2634	

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/650,179

Applicant(s)

CITTA ET AL.

Examiner

Kevin Y Kim

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6,9-16 and 45-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,9-16,45-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/19/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claim 1-6,9-16,45-51 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1-5,9,12-14,15,20,27,28,36,37,40 and 41 of U.S. Patent No. 6,700,930. Although the conflicting claims are not identical, they are not patentably distinct from each other because broader application claims would have been obvious in view of narrower issued claims (see *In re Emert*, 124, F.3d 1458, 44 USPQ 2d 1149).

Representative claim 1 is first discussed. Both application claim 1 and patent claim are drawn to an equalizer for processing blocks of data, reciting

“a finite filter having an output, wherein the finite filter is arranged to substantially eliminate the ghost from the pre-processed output in order to provide a substantially ghost free signal at the output of the finite filter;

a post-processor arranged to apply a window function to the output of the finite filter, wherein the window function has a duration substantially equal to a duration of a block of data, and wherein the post-processor applies coefficients c.”

Thus, application claim 1 merely broadens the scope of the patent claim 1 by eliminating “a pre-processor, wherein the pre-processor applies coefficients b to a received signal, wherein the coefficients b comprise a window function having a duration substantially equal to a duration of a block of data plus a temporal separation between a main signal and a ghost of the main signal, and wherein pre-processor is arranged to provide a pre-processed output.

Application claims 2-5 define the same subject matter of patent claims 2-5.

Application claim 6, in combination of claim 1, obviously reads on patent claim 1 since it merely broadens the scope of the patent claim by eliminating from patent claim 1 a limitation of “wherein the pre-processor applies coefficients b to a received signal, wherein the coefficients b comprise a window function having a duration substantially equal to a duration of a block of data plus a temporal separation between a main signal and a ghost of the main signal.”

Application claim 9, in combination of claims 1 and 6, obviously reads on patent claim 9 since it merely eliminating a limitation “wherein the coefficients c comprise steps of different magnitudes, wherein the steps of one of the coefficients b and c are of decreasing magnitude, and wherein the steps of the other of the coefficients b and c are of increasing magnitude,” thus broadening the patent claim 9.

Application claims 14-16 define the same subject matter of patent claims 12-14 respectively.

Application claim 45 obviously reads on claim 28 (in combination with claims 15 and 27) since the step of “applying coefficients a to the received main signal and the ghost signal in order to substantially eliminate the ghost --- wherein the coefficients have a duration longer than a duration of a data block” in application claim 45 is recited in patent claim 28, and the step of “applying coefficients c to the substantially ghost-free signal, wherein the coefficients c form a window function having a duration substantially equal to a duration of a data block” is recited in claim 15. Thus, claim 45 broadens patent claim 28 by eliminating some limitations.

Application claim 46 calling for “modulat[ing] the received main signal and the ghost so that the received main signal and the ghost are unequal” is recited in patent claim 15 in defining “a pre-processor” that applies coefficients b to a received signal so as to make a main signal and a ghost unequal.”

Application claim 47 defines the same subject matter of patent claim 20.

Application claims 48 and 49 define the same subject matter of patent claims 40 and 41 respectively.

Application claims 50 and 51 define the same subject matter of patent claims 36 and 37.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2634

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kvk

  
**CHIEH M. FAN**  
**PRIMARY EXAMINER**